UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,382	09/21/2000	Marc Rabarot	025219-272	2963

7590 07/26/2005

Thelen Reid & Priest LLP
P.O. Box 640640
San Jose, CA 95164-0640

EXAMINER	
BLOUNT, STEVEN	
ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/601,382	RABAROT ET AL.	
	Examiner	Art Unit	
	Steven Blount	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14 - 28 and 31 - 33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14 - 28 and 31 - 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 14 – 20, 22, 24 – 25, 27 – 28, and 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 4,731,344 to Canning et al in view of U.S. patent 5,763,290 to Nakajima.

With regard to claim 14, Canning et al teach forming a microrelief (see the areas adjacent member 7 in figure 2) for a laser cavity device, wherein a saw is used to form the cuts (col 2 line 24); Nakajima also teaches that the cuts are not carried through the thickness of the substrate (see figure 7). The examiner notes that cuts such as these would ordinarily be made by moving the saw parallel to the substrate, and in a translational manner. Canning et al also teaches cutting the substrate into bits such that the microcomponents are separated from each other. See column 2, lines 15+.

Note that the applicant has not specified the order for the steps of forming the microrelief (par 2 of claim 1) and the step of cutting the substrate into microcomponents (par 3 of claim 1) relative to each other. Also note that there is also no reason to infer, based on the language of this claim, that one should be considered to be done prior to the other.

Although Canning et al do teach forming a polished surface on the microcomponent (see col 2 lines 12+ and note the use of a "high – reflective coating" on members 7 and 8), Canning et al do not teach that the microrelief itself has the mirror polished surface.

Nakajima teaches that mirror polishing is the usual final step in producing semiconductor wafers. See col 8 lines 12+.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have formed a polished surface on the entire surface of the laser microcomponent in Canning et al, in light of the teachings Nakamima, in order to provide a surface which is able to reflect laser light within a narrow band of energy.

With regard to claim 15, it would be obvious to provide the polishing step after the relief cutting step in Canning et al in view of the fact that the microcomponents would not, in Canning et al, be exposed to the deleterious effects associated with further cutting which would subsequently remove the polish finish.

With regard to claim 16, the mirror surface polish of the microcomponent is obtained as a result of the finishing step taught in Nakajima.

With regard to claim 17, a saw is used to do the cutting in Canning et al.

With regard to claim 18, using more than one saw (ie, for different grades of cutting) is an obvious variation of using a single saw.

With regard to claim 19, as stated above, a single saw is used in Canning et al.

With regard to claim 20, the T-shaped object formed in Canning et al is a type of "microprism".

With regard to claim 22, saws typically have plane and parallel faces, and the examiner takes Official Notice of this fact.

With regard to claim 24, etching is taught in column 1 lines 45+ of Nakajima.

With regard to claim 25, the coating discussed in Nakajima is a "planarized" coating.

With regard to claim 27, see the rejection of claim 1 above, and further note that in col 2 line 36 of Canning et al, it is stated that the cuts are made to be 10 microns wide.

With regard to claim 28, see the rejection of claim 14 above.

With regard to claims 31 – 33, see the rejection of claim 27, and note that an RMS of 1 to about 100nm would be obvious in view of making a cut of the magnitude of 10 microns.

3. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 4,731,344 to Canning et al in view of U.S. patent 5,763,290 to Nakajima as applied to claims 14 and 20 above, and further in view of U.S. patent 5,868,125 to Moujoud.

Canning/Nakajima teach the invention as discussed above, but do not teach using a V-profile abrasive blade to make the microprisms, or a U-shaped blade with abrasive grits to make them as well.

Moujoud teaches using a V/U blade to form the microprisms. See figure 1. Maoujoud also teaches using abrasive grits. See col 4 line 19.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided Canning/Nakajima with a V (or U) shaped cutting tool, with abrasive grits, in light of the teachings of Moujoud, in order to provide a more effective means for forming the cuts in the microprisms.

4. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 4,731,344 to Canning et al in view of U.S. patent 5,763,290 to Nakajima as applied to claim 14 above, and further in view of U.S. patent 5,842,912 to Holzapfel.

Canning et al/Nakajima teach the invention as described above with respect to claim 14, but do not teach the use of a separate polishing abrasive used through the use of a separate carrier. This is taught in Holzapfel. See col 6, lines 60+.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the blade of Canning et al/Nakajima to act as the carrier for the grits in light of the teachings of Holzapfel in order to effectively distribute the grits during the groove formation.

5. Applicants arguments are deemed moot in view of the new grounds of rejection.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

SB
SB
7/16/05